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Robert Weinmann

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EXAMINER

MALEKZADEH, SEYED MASOUD

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/571,286	Applicant(s) WEINMANN, ROBERT	
	Examiner SEYED M. MALEKZADEH	Art Unit 1791	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 April 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 and 16 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-14 and 16 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>04/18/2008</u> | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

Claims 1 – 16 are pending.

In view of the amendment, filed on 04/18/2008, following rejections are withdrawn from the previous office action, mailed on 10/18/2007, for the reason of record.

- Objection of claims 9 and 13
- Rejection of claims 7-14 under 35 U.S.C. 112, second paragraph
- Rejection of claims 1-6 under 35 U.S.C. 102(b) as being anticipated by Hehl (US 4,863,368)
- Rejection of claims 7-8, 10-12, and 14 under 35 U.S.C. 103(a) as being unpatentable over Hehl ('368) in view of Hehl ('737)

New Grounds of Rejection

Claim Rejections - 35 USC § 112, 2nd paragraph

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-14 and 16 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and

distinctly claim the subject matter which applicant regards as the invention.

Claim 1 recites the limitation "the rear section" in the second line. There is insufficient antecedent basis for this limitation in the claim because prior to the cited limitation, the claim fails to clearly define "a rear section"

Claim 1 recites the limitation "the machine frame" in the second line. There is insufficient antecedent basis for this limitation in the claim because prior to the cited limitation, the claim fails to clearly define "a machine frame"

Claim 1 recites the limitation "a drive unit" in the third line of the claim 1. There is insufficient antecedent basis for this limitation in the claim because prior to this citation, the claim already has cited "a drive unit" in the first line. Therefore, the claim fails to define if "a drive unit" in the third line refers to the previous citation or the citation is referring to a new limitation.

Claim 1 recites the limitation "the plasticizing cylinder" in the fourth line. There is insufficient antecedent basis for this limitation in the claim because prior to the cited limitation, the claim fails to clearly define "a plasticizing cylinder" for the claimed apparatus.

Claim 1 recites the limitation "the injection mold" in the fourth line of the claim. There is insufficient antecedent basis for this limitation in the claim because prior to the cited limitation, the claim fails to clearly define "an injection mold" for the claimed apparatus.

Claim 1 recites the limitation "the frame of the injection molding" in the sixth line of the claim. There is insufficient antecedent basis for this limitation in the claim because prior to the cited limitation, the claim fails to clearly define "a frame of the injection molding machine"

Claim 1 recites the limitation "an individual drive" in the seventh line of the claim. There is insufficient antecedent basis for this limitation in the claim because prior to the cited limitation, the claim already has cited "a drive unit" in the first and the third lines of the claim which has similar structural functionality as "an individual drive". Therefore, the claim fails to define if the claimed "an individual drive" in the seventh line refers to the previous citation or "an individual drive" is referring to a new limitation.

Claim 1 recites the limitation "the plasticizing cylinder" in the seventh line. There is insufficient antecedent basis for this limitation in the claim because prior to the cited limitation, the claim fails to clearly define "a plasticizing cylinder" for the claimed apparatus.

The phrase "slight pivotability of the nozzle tip" in the seventh line of the claim 1 is a relative term which renders the claim indefinite. The term "slight " is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention.

Claim 1 recites the limitation "the nozzle tip" in the eighth line of the claim. There is insufficient antecedent basis for this limitation in the claim

because prior to the cited limitation, the claim fails to clearly define “a nozzle tip” for the claimed apparatus

Claim 1 recites the limitation "the injection mold" in the eighth line of the claim. There is insufficient antecedent basis for this limitation in the claim because prior to the cited limitation, the claim fails to clearly define “an injection mold” for the claimed apparatus.

Claim 1 recites the limitation "the rear section of the drive block" in the ninth line of the claim. There is insufficient antecedent basis for this limitation in the claim because prior to the cited limitation, claim fails to define "a rear section of the drive block" for the claimed apparatus.

Claim 3 recites the limitation "the plasticizing cylinder" in the second and the third lines of the claim. There is insufficient antecedent basis for this limitation in the claim because prior to the cited limitation, claims 3 or 1 fail to clearly define “a plasticizing cylinder”

Claims 5 recite the limitation "the active axis of the fish joint connection" in the second line of the claim and claim 6 recite the limitation "the active axis" in the second line. There is insufficient antecedent basis for these limitations in the claim because prior to the cited limitations, claims 1, 5, or 6 fail to clearly define “an active axis of a fish joint connection”.

Claim 5 recite the limitation "the center of the machine" in the second and third lines of the claim. There is insufficient antecedent basis for these

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limitations in the claim because prior to the cited limitation, claims 1 or 5 fail to clearly define “a center of the machine” for the claimed apparatus.

Claim 5 recites the limitation "the axis of the plasticizing cylinder" in the third line. There is insufficient antecedent basis for this limitation in the claim because prior to the cited limitation, claims 1 or 5 fail to define "an axis of a plasticizing cylinder"

Claim 6 recites the limitation "the frame level" in the second line of the claim. There is insufficient antecedent basis for this limitation in the claim because prior to the cited limitation, claims 1 or 6 fail to clearly define “a frame level”

Claim 6 recites the limitation "the level of runners" in the third line of the claim. There is insufficient antecedent basis for this limitation in the claim because prior to the cited limitation, claims 1 or 6 fail to clearly define "a level of the runners"

Claim 8 recites the limitation "the upper rotary pins" in the first line of the claim. There is insufficient antecedent basis for this limitation in the claim because prior to the cited limitation, claims 1 or 8 fail to clearly define "an upper rotary pins"

Claim 8 recites the limitation "the lower joint" in the third line of the claim. There is insufficient antecedent basis for this limitation in the claim because prior to the cited limitation, claims 1 and 8 fail to clearly define “a lower joint”

Claim 8 recite the limitation "the running gear" in the third line of the claim. There is insufficient antecedent basis for this limitation in the claim because prior to the cited limitation, claims 1 or 8 fail to clearly define "a running gear"

Claim 9 recites the limitation "the rear section" in the second line. There is insufficient antecedent basis for this limitation in the claim because prior to the cited limitation, claim fails to clearly define "a rear section"

Claim 9 recites the limitation "the machine frame" in the second line. There is insufficient antecedent basis for this limitation in the claim because prior to the cited limitation, claim fails to clearly define "a machine frame"

Claim 9 recites the limitation "a drive unit" in the third line. There is insufficient antecedent basis for this limitation in the claim because prior to this citation, the claim already has cited "a drive unit" in the first line. Therefore, the claim fails to define if "a drive unit" in the third line refers to the previous limitation or the citation is referring to a new limitation.

Claim 9 recites the limitation "the plasticizing cylinder" in the fourth line. There is insufficient antecedent basis for this limitation in the claim because prior to the cited limitation, the claim fails to clearly define "a plasticizing cylinder" for the claimed apparatus.

Claim 9 recites the limitation "the injection mold" in the fourth line of the claim. There is insufficient antecedent basis for this limitation in the claim

because prior to the cited limitation, the claim fails to clearly define “an injection mold” for the claimed apparatus.

Claim 9 recites the limitation "the frame of the injection molding" in the sixth line of the claim. There is insufficient antecedent basis for this limitation in the claim because prior to the cited limitation, the claim fails to clearly define “a frame of the injection molding machine”

Claim 9 recites the limitation "an individual drive" in the sixth line of the claim. There is insufficient antecedent basis for this limitation in the claim because prior to the cited limitation, the claim already has cited “a drive unit” in the first and the third lines of the claim which has similar structural functionality as the claimed "an individual drive". Therefore, the claim fails to define if "an individual drive" in the sixth line refers to the previous citation, as cited in the first and third lines of the claim, or the citation is referring to a new limitation.

Claim 9 recites the limitation "the plasticizing cylinder" in the seventh line. There is insufficient antecedent basis for this limitation in the claim because prior to the cited limitation, the claim fails to clearly define “a plasticizing cylinder” for the claimed apparatus.

The phrase "slight pivotability of the nozzle tip" in the seventh line of the claim 9 is a relative term which renders the claim indefinite. The term “slight ” is not defined by the claim, the specification does not provide a standard for

ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention.

Claim 9 recites the limitation "the nozzle tip" in the eighth line of the claim. There is insufficient antecedent basis for this limitation in the claim because prior to the cited limitation, the claim fails to clearly define "a nozzle tip" for the claimed apparatus

Claim 9 recites the limitation "the injection mold" in the seventh and eighth lines of the claim. There is insufficient antecedent basis for this limitation in the claim because prior to the cited limitation, the claim fails to clearly define "an injection mold" for the claimed apparatus.

Claim 9 recites the limitation "the rear section of the drive block" in the eighth line of the claim. There is insufficient antecedent basis for this limitation in the claim because prior to the cited limitation, the claim fails to clearly define "a rear section of the drive block" for the claimed apparatus.

Claim 9 recites the limitation "the guide shoes" in the tenth line of the claim. There is insufficient antecedent basis for this limitation in the claim because prior to the cited limitation, the claim fails to clearly define "guide shoes" for the claimed apparatus

Claim 9 recites the limitation "the horizontal spacing with respect to the tension-stressed guide shoes" in the tenth and eleventh lines of the claim. There is insufficient antecedent basis for this limitation in the claim because

prior to the cited limitation, the claim fails to clearly define “a horizontal spacing with respect to a tension-stressed guide shoes”

Claim 9 recites the limitation "the corresponding spacing of the pressure-stressed guide shoes" in the eleventh and twelve line of the claim. There is insufficient antecedent basis for this limitation in the claim because prior to the cited limitation claim 9 fails to clearly define "a corresponding spacing of a pressure-stressed guide shoes"

Claim 9 recites the limitation "the K factor" in the twelve line of the claim. There is insufficient antecedent basis for this limitation in the claim because prior to the cited limitation, claim fails to define “a K factor”

Claim 10 recite the limitation "the rotational and axial movement of the plasticizing worm" in the second and third line of the claim. There is insufficient antecedent basis for this limitation in the claim because prior to the cited limitation, claims 10 or 1 fail to clearly define “a rotational and axial movement of a plasticizing worm”

Claim 10 recites the limitation "the frame" in the fourth line of the claim. There is insufficient antecedent basis for this limitation in the claim because prior to the cited limitation, claims 10 or 1 fail to clearly define "a frame” for the claimed apparatus

Claim 10 recites the limitation "the plasticizing cylinder" in the fourth and fifth lines of the claim. There is insufficient antecedent basis for this

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limitation in the claim because prior to the cited limitation, claims 10 or 9 fail to clearly define "a plasticizing cylinder"

Claim 10 recites the limitation "the drive unit" in the fifth line of the claim. There is insufficient antecedent basis for this limitation in the claim because prior to this citation, claim 1 already has cited "a drive unit" in the first and third lines of the claim as two different limitations. Therefore, it is not defined if the "the drive unit", in the fifth line of the claim 10, refers to which of the previous limitations in the claim 1.

Claim 11 recite the limitation "the additional guide shoe unit" in the second line. There is insufficient antecedent basis for this limitation in the claim because prior to the cited limitation, claims 1 and 11 fail to clearly define "an additional guide shoe unit"

Claim 11 recites the limitation "the drive unit" in the third line of the claim. There is insufficient antecedent basis for this limitation in the claim because prior to this citation, claim 1 already has cited "a drive unit" in the first and third lines of the claim as two different limitations. Therefore, it is not defined if the "the drive unit", in the fifth line of the claim 10, refers to which of the previous limitations in the claim 1.

Claim 12 recites the limitation "the additional guide shoe unit" in the second line of the claim. There is insufficient antecedent basis for this limitation in the claim because prior to this citation, claims 1 or 12 fail to define "an additional guide shoe unit" in the claimed apparatus.

Claim 13 recites the limitation "the rear section" in the second line. There is insufficient antecedent basis for this limitation in the claim because prior to the cited limitation, the claim fails to clearly define "a rear section"

Claim 13 recites the limitation "the machine frame" in the second line. There is insufficient antecedent basis for this limitation in the claim because prior to the cited limitation, the claim fails to clearly define "a machine frame"

Claim 13 recites the limitation "a drive unit" in the third line of the claim. There is insufficient antecedent basis for this limitation in the claim because prior to this citation, the claim already has cited "a drive unit" in the first line. Therefore, the claim fails to define if "a drive unit" in the third line refers to the previous citation or the citation is referring to a new limitation.

Claim 13 recites the limitation "the plasticizing cylinder" in the fourth line. There is insufficient antecedent basis for this limitation in the claim because prior to the cited limitation, the claim fails to clearly define "a plasticizing cylinder" for the claimed apparatus.

Claim 13 recites the limitation "the injection mold" in the fourth line of the claim. There is insufficient antecedent basis for this limitation in the claim because prior to the cited limitation, the claim fails to define "an injection mold" for the claimed apparatus.

Claim 13 recites the limitation "the frame of the injection molding" in the sixth line of the claim. There is insufficient antecedent basis for this limitation

in the claim because prior to the cited limitation, the claim fails to clearly define “a frame of the injection molding machine” for the claimed apparatus.

Claim 13 recites the limitation "an individual drive" in the sixth line of the claim. There is insufficient antecedent basis for this limitation in the claim because prior to the cited limitation, the claim already has cited “a drive unit” in the first and the third lines of the claim which has similar structural functionality as "an individual drive". Therefore, the claim fails to define if "an individual drive" in the seventh line refers to the previous citation or the citation is referring to a new limitation.

Claim 13 recites the limitation "the plasticizing cylinder" in the seventh line. There is insufficient antecedent basis for this limitation in the claim because prior to the cited limitation, the claim fails to clearly define “a plasticizing cylinder” for the claimed apparatus.

The phrase "slight pivotability of the nozzle tip" in the seventh line of the claim 1 is a relative term which renders the claim indefinite. The term “slight ” is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention.

Claim 13 recites the limitation "the nozzle tip" in the eighth line of the claim. There is insufficient antecedent basis for this limitation in the claim because prior to the cited limitation, the claim fails to clearly define “a nozzle tip” for the claimed apparatus

Claim 13 recites the limitation "the injection mold" in the seventh and eighth lines of the claim. There is insufficient antecedent basis for this limitation in the claim because prior to the cited limitation, the claim fails to clearly define "an injection mold" for the claimed apparatus.

Claim 13 recites the limitation "the rear section of the drive block" in the ninth line of the claim. There is insufficient antecedent basis for this limitation in the claim because prior to the cited limitation, the claim fails to clearly define "a rear section of the drive block" for the claimed apparatus.

Claim 13 recites the limitation "the front section" in the tenth line of the claim. There is insufficient antecedent basis for this limitation in the claim because prior to the cited limitation, the claim fails to clearly define "a front section" for the claimed apparatus.

Claim 13 recite the limitation "the other guide shoe unit" in the tenth and eleventh line of the claim. There is insufficient antecedent basis for this limitation in the claim because prior to the cited limitation, the claim fails to clearly define "a guide shoe unit"

Claim 13 recite the limitation "the rear section unit of the injection unit" in the eleventh line of the claim. There is insufficient antecedent basis for this limitation in the claim because prior to the cited limitation, the claim fails to clearly define "a rear section of an injection unit"

Claim 13 recites the limitation "the running gear" in the eleventh line of the claim. There is insufficient antecedent basis for this limitation in the claim

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because prior to the cited limitation, the claim fails to clearly define "a running gear"

Claim 13 recite the limitation "the guide shoe unit" in the twelve line of the claim. There is insufficient antecedent basis for this limitation in the claim because prior to the cited limitation, the claim fails to clearly define "a guide shoe unit"

Claim 14 recite the limitation "the rotary pins" in the second line. There is insufficient antecedent basis for this limitation in the claim because prior to the cited limitation, claims 14 or 1 fail to clearly define "a rotary pins"

Claim 14 recites the limitation "the axis of the plasticizing cylinder" in the third line of the claim. There is insufficient antecedent basis for this limitation in the claim because prior to the cited limitation, claims 14 or 1 fail to clearly define "an axis of the plasticizing cylinder"

Claim 14 recite the limitation "the plasticizing cylinder" in the fourth line. There is insufficient antecedent basis for this limitation in the claim because prior to the cited limitation, claims 14 or 1 fail to clearly define "a plasticizing cylinder tip"

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject

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matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

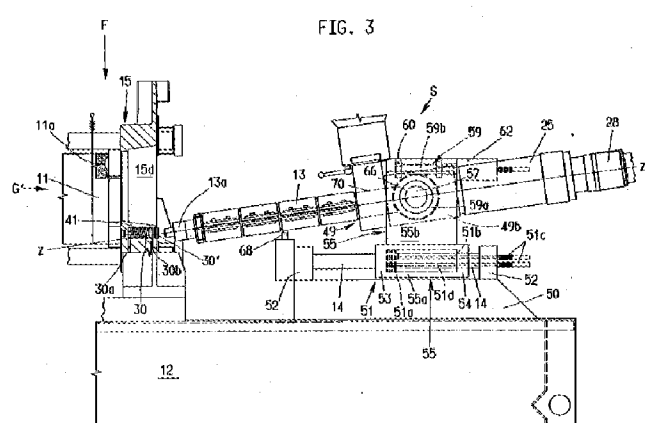
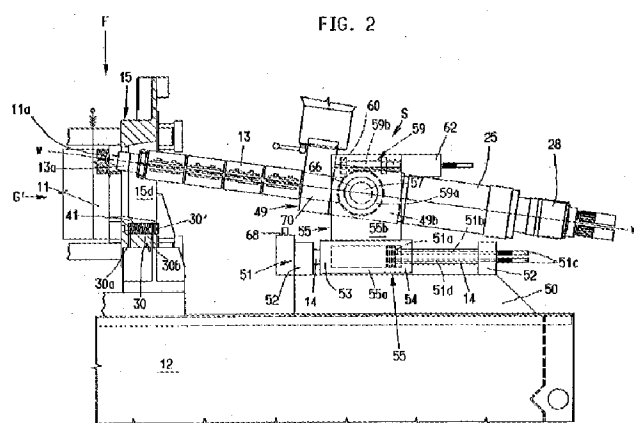
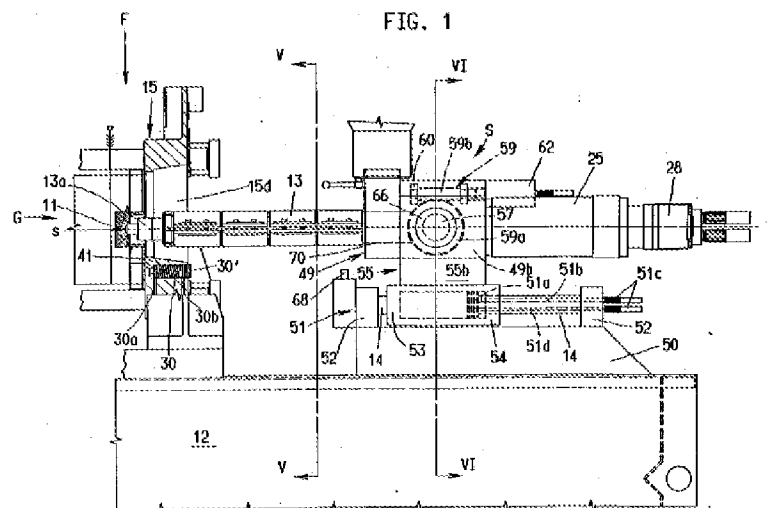
1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 1-6 and 8-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hehl (US 4,863,368) in view of Hehl (US 5,007,816)

Hehl ('368) discloses an injection unit which include a carrier block (49), which has the similar structural functionality as a drive block, moveable on columns (14), which has the similar structural limitation as runners, of the machine frame (50) in an injection molding machine (S) and also include a driving means (54) which is a hydraulic drive cylinder as a drive unit for axially displacing and pressing the plasticizing cylinder (13) to the injection mold, in which the injection unit (S) is supported in an articulated manner by a support (55a and 55b) which is moveable on columns (14) of the frame (50) of the injection molding machine and include a driving means (53 and 54) which is a hydraulic drive cylinder for pressing the plasticizing cylinder (13), with a pivotable nozzle tip (13a), to the injection mold unit (F) while achieving a centric

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sealing connection, and the center section of the carrier block (49) is supported by an adjustable mean such as a worm gear drive (59) as an adjustable mean to vertically adjust the injection molding unit "S". (See figure 1; also lines 1-28, column 4 and lines 27-29, column 5)



Further, Hehl ('368) discloses the support (55) is formed as a running gear (53, 54) with an undercarriage (50). (See figure 1 and lines 19-26, column 5)

Moreover, Hehl ('368) teaches the support (55) has two lateral support cheeks (55a, 55b), which provide the plasticizing cylinder (13) with articulated support via rotary pins (57). (See figure 1 and lines 8-26, column 4)

Also, Hehl ('368) teaches the support (55) features, which has a fish joint (55a and 55b) with a joint for a drive axis (s-s). (See figure 1 and lines 8-26, column 4)

Furthermore, Hehl ('368) discloses the active axis (14) of the fish joint (55b) connection is disposed at the center of the injection molding (S) and in parallel to the axis of the plasticizing cylinder (s-s). (See figure 1 and lines 1-4, column 4 and lines 65-68, column 4)

Moreover, Hehl ('368) teaches the active axis (14) is preferably disposed at approximately the frame level (50). (See figure 1)

Further, Hehl ('368) discloses the support (55) is driven relative to the machine bed (50) in a direction parallel to the injection axis (s-s) by means of a hydraulic drive cylinder ('54) which is formed in a cylinder bore (53) in the support (55) and an axially stationary piston (51a) slidable there inside (See lines 8-13, column 5).

Moreover, Hehl ('368) discloses the support (55) in the region between the upper rotary pins (57) and the joint (55a and 55b) and the running gear (53

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and 54) is rigidly formed, with deformation under stress being substantially zero. (See figure 1 and lines 19-28, column 4)

Also, Hehl ('368) teach the rotary pins (57) are at least approximately disposed in a shared horizontal plane with the axis of the plasticizing cylinder (13), in such a manner that during adjustment of the plasticizing cylinder tip (13a), a pivoting movement can be completed in both a horizontal and a vertical plane. (See figure 1, also, lines 19-28 and lines 53-59, column 4)

However, Hehl ('368) fails to teach the drive block is positioned in a rear section of the drive unit, as claimed in claim 1, Further Hehl ('368) fails to teach the guide shoes of the drive block are designed as spherical rotary spindles, as claimed in claim 9; also, Hehl ('368) fails to teach the drive unit being supported by an additional guide shoe unit including a lower drive bridge positioned on the frame, as claimed in claims 10-12. Further, the prior art fails to teach the running gear of the drive block include two guide shoe unit on the frame, as claimed in claim 13.

In the analogous art, Hehl (US 5,007,816) teach a carrier section for the injection unit of the injection machine adapted to be transferred to different operating positions, wherein the carrier section comprises an injection unit (s), a supporting member (19), a base member (49) as a drive block, hydraulic actuating cylinders (18), an underside of a base member (49) as a guide shoe unit which adjusts the position of injection unit, a motor (122) and a clamp screw (125), together, as a drive unit, rectangular cast iron frame (117) as rails,

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and supporting rollers (16) which are rotatably mounted in bars (152) as guide shoe units which are secured to the underside of a base member (49) of the injection unit, wherein the drive block (49) is positioned in the rear section of the drive unit (122 and 125) and also supporting rollers (16) as guide shoes are movable on the rectangular cast iron frame (117) and are designed as rotary spindles. Furthermore, Hehl ('816) discloses that the support (19) and worm gear train (122a) are positioned in the front section of the drive block (49) and the guide shoe units (16) are positioned in the rear section of the injection unit. Further, Hehl ('816) teach the drive block include a plurality of guide shoes which also include four guide shoes which are able to move on two sides of the rectangular frame (117) as two guide shoes. (See figure 1 and lines 14-68, column 4)

Therefore, it would have been obvious for one of ordinary skill in the art at the time of applicant's invention to modify the teachings of Hehl ('368) by positioning the drive block in a rear section of the drive unit and providing the drive unit by additional guide member which include a lower drive bridge positioned on the frame, and also providing the running gear of the drive block with two guide shoe units of the frame in order to improve the transfer control of the injection unit to various operating positions and also to increase the position flexibility for the movement of the injection unit, as suggested by Hehl ('816)

With regard to the citation in claim 9, lines 10-13 “the horizontal spacing with respect to the tension-stressed guide shoes being greater than the corresponding spacing of the pressure-stressed guide shoes, to offset the K factor with regard to tension and pressure balancing”

Intended use has been continuously held not to be germane to determining the patentability of the apparatus, *In re Finsterwalder*, 168 USPQ 530.

The manner or method in which a machine is to be utilized is not germane to the issue of patentability of the machine itself, *In re Casey*, 152 USPQ 235,238.

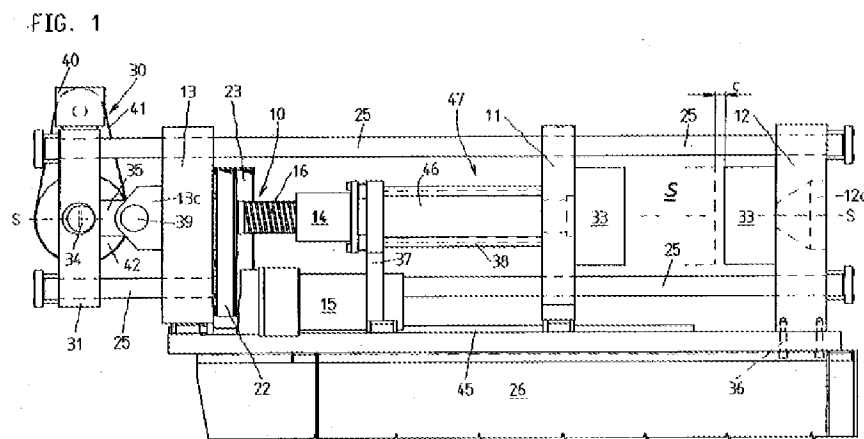
Purpose to which apparatus is to be put and expression relating apparatus to contents thereof during intended operation are not significant in determining patentability of an apparatus claim, *Ex parte Thibault*, 164 USPQ 666.

A recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus satisfying the claimed structural limitations, *EX parte Masham*, 2 USPQ2d 1647.

Claims 7 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hehl ('368) in view of Hehl ('816) and further in view of Hehl (US 5,622,737)

Combined teachings of Hehl ('368) and Hehl ('816) teach all the structural limitations of an injection unit as discussed above in rejection of claims 1-6, 8-13, and 14. However, they fail to teach the drive mechanism is a servomotor with a spindle overdrive.

In the analogous art, Hehl ('737) teaches a mold-closing unit for use in an injection-molding machine for processing plastifiable materials including a first device (10) for transferring a movable mold carrier (11), and a second device (30) for generating the closing force. (See lines 1-20, column 5)



Further, Hehl ('737) discloses the toggle lever mechanism is driven via a servomotor and the force is determined during the closing cycle. (See lines 19-26, column 3)

Also, Hehl ('737) discloses the first device (10) include a spindle system which serves for transferring the movable mold carrier. (See lines 1-5, column 4)

Furthermore, Hehl ('737) discloses the advantages of employing a servomotor and spindle system for toggle lever mechanism during the closing cycle in order to generate a reliable force for transmission of the mold parts. (See lines 41-45, column 3)

Therefore, it would have been obvious for one of ordinary skill in the art at the time of applicants invention to modify the injection molding apparatus taught by combined teachings of Hehl ('368) and Hehl ('816) through providing a servomotor with a spindle overdrive as a mold closing drive system in order to generate a reliable force for transmission of system during mold closing cycle, as suggested by the Hehl ('737).

Response to Arguments

Applicant's arguments with respect to claims 1-14 and 16 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Seyed Masoud Malekzadeh whose telephone number is 571-272-6215. The examiner can normally be reached on Monday – Friday at 8:30 am – 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steven P. Griffin, can be reached on (571) 272-1189. The fax number for the organization where this application or proceeding is assigned is 571-273-8300.

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/S. M. M./

Examiner, Art Unit 1791

/Steven P. Griffin/

Supervisory Patent Examiner, Art Unit 1791